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Substitute for form 1449PTO			<b>Complete if Known</b>		
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)			Application Number		
			Filing Date		
			First Named Inventor	Oleg GRUDIN et al.	
			Art Unit		
			Examiner Name		
Sheet	1	of	2	Attorney Docket Number	14836-8US-1 AD/mb

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
PK ↓		US-4,472,239	18 Sep. 1984	Robert E. Higashi et al.	
		US-5,635,893	3 June 1997	Renwin J. Yee et al.	
		US-5,466,484	14 Nov. 1995	Gary L. Spraggins et al.	
		US-5,679,275	21 Oct. 1997	David M. Susak et al.	
		US-4,870,472	26 Sep. 1989	Robert L. Vyne	
		US-6,184,494	6 Feb. 2001	Arto Isokoski et al.	
		US-5,742,307	21 Apr. 1998	William G. Hawkins	
		US-4,210,996	Jul. 8, 1980	Yoshihito Amemiya et al.	
		US-4,782,202	Nov. 1, 1988	Takafumi Endo et al.	
		US-2002/033519	Mar. 21, 2002	Jeffrey A. Babcock et al.	
		US-6,255,185	Jul. 3, 2001	Douglas D. Coolbaugh et al.	
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FOREIGN PATENT DOCUMENTS						
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		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				
PK /ER		W003/023794	Mar. 20, 2003	Oleg Grudin et al.		
		EP 1 275 967	Jan. 15, 2003	Honeywell Inc.		

Examiner Signature		Date Considered	10/10/06
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		Pulse Current Trimming of Polysilicon Resistors, D.W. Feldbaumer et al., IEEE Transactions on Electron Devices, IEEE, N.Y., USA, Vol. 42, N° 4, pp. 689-696.	
		Dopant Segregation in Polycrystalline Silicon, Mandurah et al., Journal Appl. Phys. 51(11), November 1980, pp. 5755-5763.	
		Spin-on Nanoparticle Tin Oxide for Microhotplate Gas Sensors, R. E. Cavicchi et al. Sensor and Actuators B. Elsevier Sequoia, S.A. Lausanne, CH, Vol. 77, No. 1-2, June 15, 2001, pp. 145-154.	
		A characterization of the Thermal Parameters of Thermally Driven Polysilicon Microbridge Actuators Using Electrical Impedance Analysis, Jae-Youl Lee et al., Sensors and Actuators A., Elsevier Sequoia S.A., Lausanne, CH. Vol. 75, No. 1, May 4, 1999, pp. 86-92.	
		Fabrication of Thermal-Isolation Structure for Microheater Elements Applicable to Fingerprint Sensors, Hans Ji-Song et al., Sensors and Actuators A., Elsevier Sequoia S.A., Lausanne, CH, Vol. 100, No. 1, Aug. 15, 2002, pp. 114-122.	

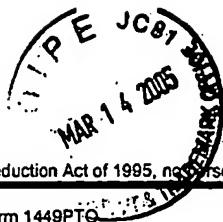
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		Application Number	10/796, 421		
		Filing Date	March 10, 2004		
		First Named Inventor	Oleg GRUDIN et al.		
		Art Unit	3742		
		Examiner Name	(unknown)		
Sheet	1	of	3	Attorney Docket Number	14836-8US-1 AD/mb

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PK		US-6,097,276	Aug. 1, 2000	Van Den Broek et al.	
		US-5,844,122	Dec. 1, 1998	Kato	
		US-5,635,893	Jun. 3, 1997	Spraggins et al.	
		US-5,493,148	Feb. 20, 1996	Ohata et al.	
		US-5,460,040	Oct. 24, 1995	Tada et al.	
		US-4,902,959	Feb. 20, 1990	Brokaw	
		US-5,757,264	May 26, 1998	Petit	
		US-4,717,886	Jan. 5, 1988	Davis et al.	
		US-4,683,442	Jul. 28, 1987	Vyne	
		US-4,606,781	Aug. 19, 1986	Vyne	
		US-5,110,758	May 5, 1992	Baskett	
		US-5,563,549	Oct. 8, 1996	Shieh	
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		Country Code3 – Number4 – Kind Code5 (if known)				
PK		WO 00/21196	Apr. 13, 2000	Honeywell Inc.		

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		Constant Voltage Trimming of Heavily Doped Polysilicon Resistors, Japan Journal Appl. Phys. Vol. 34, Part 1, No. 1, January 1995, pp. 48-53.	
		Pulse Current Trimming of Polysilicon Resistors, Transactions of Electron Devices, IEEE, Vol. 42, N° 4, April 1995, pp. 689-695.	
		Change in Temperature Coefficient of Resistance of Heavily Doped Polysilicon Resistors Caused by Electrical Trimming, Japan Journal Appl. Phys. Vol. 35, Part 1, No. 8, August 1995, pp. 4209-4215.	
		Theory and Application of Polysilicon Resistor Trimming, Solid-State Electronics, Vol. 38, N° 11, 1995, pp. 1861-1869.	
		Electrical Trimming of Ion-Beam Sputtered Polysilicon Resistors by High Current Pulses, IEEE Transactions on Electron Devices, Vol. 41, No. 8, August 1994, pp. 1429-1434.	
		Electrical Trimming of Heavily Doped Polycrystalline Silicon Resistors, IEEE Transactions on Electron Devices, Vol. ED-26, No. 11, November 1979, pp. 738-742.	
		A Monolithic 14Bit D/A Converter Fabricated with a New Trimming Technique (DOT), IEEE, Journal of Solid-State Circuits, Vol. SC-19, N° 5, October 1984, pp. 802-807.	
		Precision Electrical Trimming of Very Low TCR Poly-SiGe Resistors, IEEE Electron Device Letters, Bol. 21, No. 6, June 2000, pp. 283-286.	
		1/f Noise Transformation that Accompanies the Trimming of Polycrystalline Silicon Layers, Solid State Phenomena, Vols. 51-52 (1996) Scitec Publications, Switzerland, pp. 391-396.	
	Micromachined Thermal Radiation Emitter from a Commercial CMOS Process, IEEE Electron Devices Letters, Vol. 12, No. 2, February 1991, pp. 57-59.		

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		CMOS-Compatible High-Temperature Micro-Heater: Microstructure Release and Testing, Can. J. Elect & Comp. Eng., Vol. 25, No. 1, January 2000, pp. 002-006.	
		Reliability Study of Polysilicon for Microhotplates, 1994, Dept. of Electrical and Computer Engineering, N.R. Swart et al., University of Waterloo, Waterloo, Ont. CANADA, pp. 119-122.	
		CMOS Thermally Isolated Heater Structure as a Substrate for Semiconductor Gas Sensors, S. Wessel et al, Energy Research Institute, pp. 1.6.1 to 1.6.8.	
		A Microstructure for Measurement of Thermal Conductivity of Polysilicon Thin Films, Friedemann Völklein et al., Jour. of Microelectromechanical Systems, Vol. 1, N° 4, Dec. 1992, pp. 193-196.	
		Electrical and Optical Characteristics of Vacuum-Sealed Polysilicon Microlamps, Carlos H. Mastrangelo et al., IEEE Transactions on Electron Devices, Vol. 39, N° 6, June 1992, pp. 1363-1374.	

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